

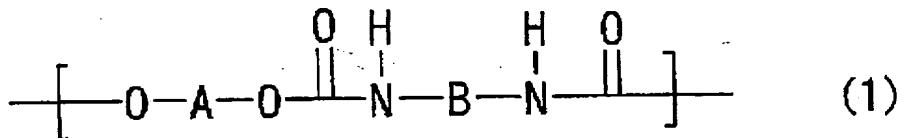
## CLAIMS

1. A paste composition comprising:

(i) a polyurethane resin which comprises:

(a) a recurring unit represented by the

5 following formula (1):

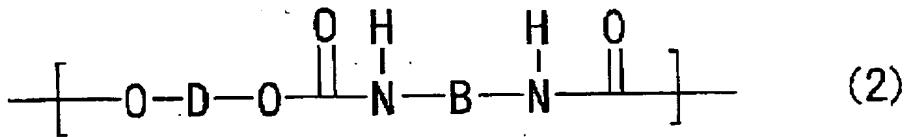


wherein A is a group (divalent group) given by removing OH groups from a polyoxyalkylene glycol (compound A) HO-A-OH having hydroxyl groups on both terminals thereof,

10 and B is a group (divalent group) given by removing NCO groups from a diisocyanate (compound B) OCN-B-NCO, and

(b) a recurring unit represented by the

following formula (2):

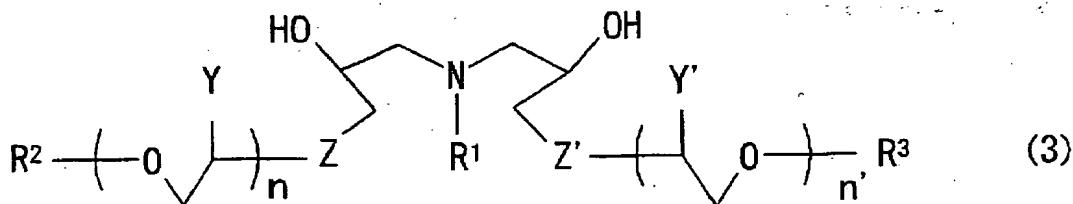


15 wherein D is a group (divalent group) given by removing OH groups from a comb-shaped diol HO-D-OH having at least two hydrocarbon groups (monovalent groups) of 4 to 21 carbon atoms in a molecule, and B is a group (divalent group) given by removing NCO groups from a diisocyanate (compound B) OCN-B-NCO,

said polyurethane resin having a molar fraction of the recurring unit (a) from 0.35 to 0.99 and a molar fraction of the recurring unit (b) from 0.01 to 0.65, with the proviso that the total of both the molar fractions is 1,

- 5 (ii) a solvent, and
- (iii) a powder.

2. The paste composition as claimed in claim 1,  
10 wherein the comb-shaped diol HO-D-OH is a comb-shaped diol (compound D) represented by the following formula  
(3) :



wherein R<sup>1</sup> is a hydrocarbon or nitrogen-containing hydrocarbon group of 1 to 20 carbon atoms, R<sup>2</sup> and R<sup>3</sup> are each a hydrocarbon group of 4 to 21 carbon atoms, a part or all of hydrogen atoms in R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> may be replaced with fluorine, chlorine, bromine or iodine, and R<sup>2</sup> and R<sup>3</sup> may be the same or different,  
15 Y and Y' are each hydrogen, a methyl group or a CH<sub>2</sub>Cl group, and Y and Y' may be the same or different,

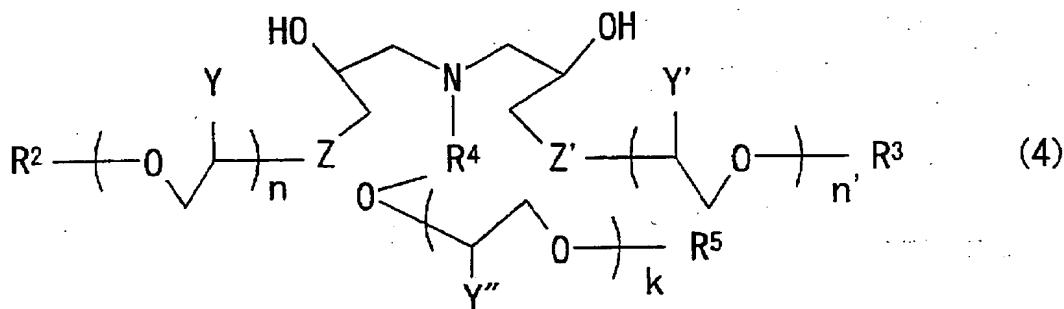
Z and Z' are each oxygen, sulfur or a CH<sub>2</sub> group, and Z and Z' may be the same or different,

when Z is oxygen, n is an integer of 0 to 15, and when Z is sulfur or a CH<sub>2</sub> group, n is 0, and

5 when Z' is oxygen, n' is an integer of 0 to 15, when Z' is sulfur or a CH<sub>2</sub> group, n' is 0, and n and n' may be the same or different;

or

a comb-shaped diol (compound D') represented by the 10 following formula (4):



wherein R<sup>5</sup> is a hydrocarbon group of 1 to 20 carbon atoms,

R<sup>2</sup> and R<sup>3</sup> are each a hydrocarbon group of 4 to 21 carbon

atoms, a part or all of hydrogen atoms in R<sup>5</sup>, R<sup>2</sup> and R<sup>3</sup>

15 may be replaced with fluorine, chlorine, bromine or iodine, and R<sup>2</sup> and R<sup>3</sup> may be the same or different,

Y, Y' and Y'' are each hydrogen, a methyl group or a CH<sub>2</sub>Cl group, and Y and Y' may be the same or different,

Z and Z' are each oxygen, sulfur or a CH<sub>2</sub> group, and

20 Z and Z' may be the same or different,

R<sub>4</sub> is an alkylene group having 2 to 4 carbon atoms in all,

k is an integer of 0 to 15,

when Z is oxygen, n is an integer of 0 to 15, and

5 when Z is sulfur or a CH<sub>2</sub> group, n is 0, and

when Z' is oxygen, n' is an integer of 0 to 15, when Z' is sulfur or a CH<sub>2</sub> group, n' is 0, and n and n' may be the same or different.

10 3. The paste composition as claimed in claim 1 or 2, wherein the powder (iii) is a low-melting point glass powder.

15 4. The paste composition as claimed in any one of claims 1 to 3, which further comprises an inorganic filler (except the low-melting point glass powder) as the powder (iii).

20 5. The paste composition as claimed in claim 1 or 2, wherein the powder (iii) is a phosphor powder.

6. The paste composition as claimed in any one of claims 1 to 4, wherein the low-melting point glass powder is a dielectric glass powder.

7. The paste composition as claimed in any one of claims 1 to 4, wherein the low-melting point glass powder is a sealing glass powder.

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8. The paste composition as claimed in any one of claims 1 to 4, wherein the low-melting point glass powder is a barrier rib material glass powder.

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9. A dielectric layer formed from the paste composition of any one of claims 1 to 4 and 6.

10. A sealed product formed from the paste composition of any one of claims 1 to 4 and 7.

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11. A barrier rib formed from the paste composition of any one of claims 1 to 4 and 8.

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12. A phosphor formed from the paste composition of any one of claims 1, 2 and 5.

13. A process for producing a dielectric layer, comprising applying or printing the paste composition of

any one of claims 1 to 4 and 6 on a substrate and then firing the paste composition.

14. A process for producing a sealed product,  
5 comprising applying or printing the paste composition of any one of claims 1 to 4 and 7 on a substrate and then firing the paste composition.

15. A process for producing a barrier rib,  
10 comprising applying or printing the paste composition of any one of claims 1 to 4 and 8 on a substrate and then firing the paste composition.

16. A process for producing a phosphor, comprising  
15 applying or printing the paste composition of any one of claims 1, 2 and 5 on a substrate and then firing the paste composition.